

**REMARKS UNDER 37 CFR § 1.111**

**Formal Matters**

Claims 1-40 are pending after entry of the amendments set forth herein.

Claims 5, 11, 25 and 31 are currently withdrawn from consideration.

Claims 1-4, 6-10, 12-24, 26-30 and 32-40 were examined. Claims 1-4, 6-10, 12-24, 26-30 and 32-40 were rejected.

Applicants respectfully request reconsideration of the application in view of the amendments and remarks made herein.

No new matter has been added.

**The Office Action**

**Claims Rejected Under 35 U.S.C. Section 112, Second Paragraph**

In the Official Action of May 16, 2007, claims 1-4, 6-10, 12-24, 26-30 and 32-40 were rejected under 35 U.S.C. Section 112, second paragraph as being indefinite.

Regarding claims 1, 20 and 21, the Examiner indicated that there was insufficient basis for “each element of said correlation matrix”. In response thereto, claims 1, 20 and 21 have been amended to clarify that the correlation matrix is composed of elements, thereby establishing proper antecedent basis for “each element of said correlation matrix”.

Further in regard to claims 1, 20 and 21, the Examiner indicated that it was unclear as to what the correlation values are a correlation of. In response thereto, claims 1, 20 and 21 have been amended to clarify that a correlation value indicates a degree to which rows identified by the row and column identifiers are related to one another. Support for this amendment can be found, for example, at page 24, line 5-7 of the specification.

The Examiner further rejected claims 1, 20 and 21, indicating that it was unclear if it is the matrix that is identifying the at least one group or if it is the clustering of the matrix that identifies one group. In response thereto, Applicants have amended claims 1, 20 and 21 to clarify clustering said correlation matrix and identifying at least one group of correlated ranges of said values, wherein at least

one row of said correlation matrix is identified as being in said at least one group. Support for this amendment can be found, for example at page 24, lines 17-20 of the specification.

The Examiner further asserted with regard to claims 1, 20 and 21, that it was unclear what time period was being selected. In response thereto, Applicants have amended claims 1, 20 and 21 to provide proper antecedent basis for the time period. To further clarify in response to the Examiner's inquiry, Applicants note that on page 25, line 5 to page 26, line 3 of the specification which indicates that the time periods of interest may vary depending upon where peaks for the scans have been formed.

The Examiner indicated with regard to claims 1, 20 and 21 that the phrase "producing a resultant spectrum" was unclear, as on spectra were input such that a spectra would be output. In response thereto, Applicants have amended claims 1, 20 and 21 to clarify that data sets of spectra are inputted.

Further in regard to claims 1, 20 and 21, the Examiner indicated that it was unclear as to what was intended by "using a form of said input data". In response, Applicants have deleted this phrase from claims 1, 20 and 21.

In view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1-4, 6-10, 12-24, 26-30 and 32-40 under 35 U.S.C. Section 112, second paragraph, as being indefinite, as being no longer appropriate.

**Claims Provisionally Rejected Under Nonstatutory Obviousness-type Double Patenting (US 11/145,459 in view of US 2004/0096982)**

Claims 1, 20, 21 and 40 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 28 and 30 of copending Application No. 11/145,459 in view of US Publication No. 2004/0096982. Although Applicants do not agree with this ground of rejection and do not acquiesce thereto, Applicants are submitting a terminal disclaimer herewith in order to advance the prosecution of the instant application to allowance.

In view of the submission of the terminal disclaimer, the Examiner is respectfully requested to reconsider and withdraw the provisional rejection of claims 1, 20, 21 and 40 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 28 and 30 of copending Application No. 11/145,459 in view of US Publication No. 2004/0096982, as being moot.

**Withdrawn Claims**

The Examiner is respectfully requested to reinstate and allow withdrawn claims 5, 11, 25 and 31 with the allowance of the claims from which they depend.

**Conclusion**

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at 408-736-3554.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078, order number 10021004-01.

Respectfully submitted,

Date: 8/15/07

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